Figure 1: Amino acid sequence comparison of *C. elegans* LPLATs (Ce-T06E8.1 and Ce-F59F4.4) with *M. musculus* LPAAT (Mm-NP061350).

Mm-NP061350 Ce-T06E8.1 Ce-F59F4.4	1 MELWPGAWIA MENFWSI MIF	LLLLLELLES VVFFLESIEF LAILFMIAML	TLWFCSSSAK ILYNISTVCH LLLAQLPVIG	YFFKMAFYNG YYMRISFYYF FYIRAVYFGM	50 WILFLAILAI TILLHGMEVC CLIIGGFLGG
Mm-NP061350 Ce-T06E8.1 Ce-F59F4.4	51 PVCAVRGRNV VTMIPSWLNG LASIPFGKSP	KGADYVFHSF	FYWCKWTGVH	VEWRGAHHFP TTWYGYEKTQ FELRNSEILH	VEGPAVVICN
Mm-NP061350 Ce-T06E8.1 Ce-F59F4.4	101 HQSSLDTLGM HQSSLDTLSM HQSALDVLGM	ASIWPKNCVV	IAKRELLWAG MMKRILAWVP MLKSSLKWLP	SAGLACWLAG FFNLGAYFSN GFNLCAYLCD	150 TIFIDRKRTG TIFIDRYNRE SVYINRFSKE
Mm-NP061350 Ce-T06E8.1 Ce-F59F4.4	151 DAISVMSEVA RAMASVDYCA KALKTVDTTL	QTLLTQDVRV SEMKNRNLKL HELVTKKRKV		NGSMI PFKRG EGGFIPFKKG EPELIPFKKG	200 AFHIAVQAQV AFNIAVRAQI AFIIIAKQAKI
Mm-NP061350 Ce-T06E8.1 Ce-F59F4.4	201 PIIPIVMSSY PIIPVVFSDY PIVPCVFSSH	QDFYSKKERR RDFYSKPGRY KFFYSHAEKR	FTSPGRCQUR FKNDGEVVER LTS.GNCIED	VLDAIPIKGL	250 TPDDVPALAD TLDDVSELSD KFDSIDDLSA
Mm-NP061350 Ce-T06E8.1 Ce-F59F4.4	251 SVRHSMLTIF MCRDVMLAAY HCRKIMQAHR	B/08	GDCLKKPGGA NATRRGETKD NI	285 GEARL GKKSE	

Figure 2: Fatty acid profiles of transgenic C13ABYS86 S. cerevisiae cells

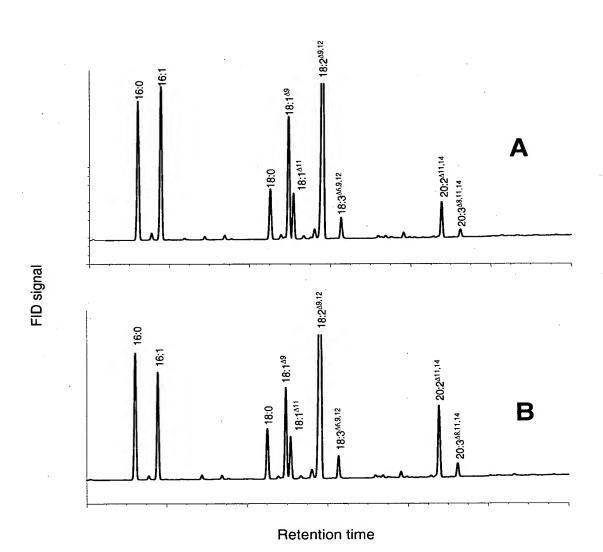
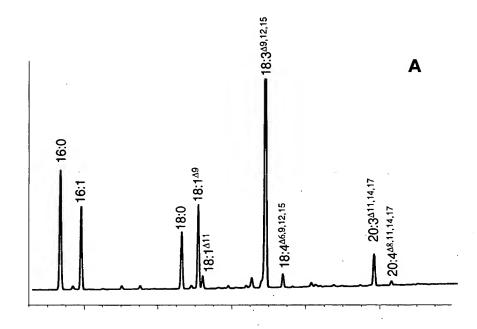


Figure 3: Fatty acid profiles of transgenic C13ABYS86 S. cerevisiae cells



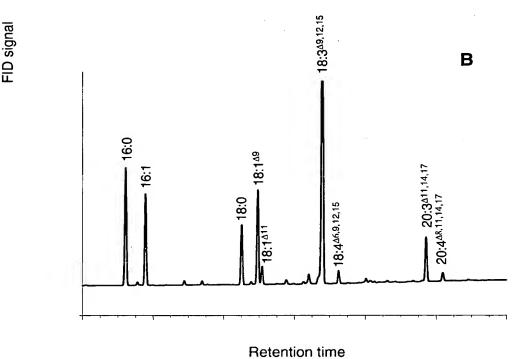


Figure 4: Elongation of exogenously applied  $18:2^{\Delta 9,12}$  and  $18:3^{\Delta 9,12,15}$ , following their endogenous  $\Delta 6$ -desaturation (data of figs. 2 and 3).

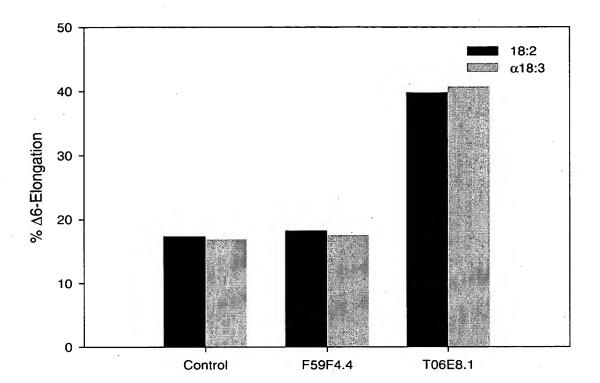


Figure 5: Fatty acid profiles of transgenic INVSc1 S. cerevisiae cells

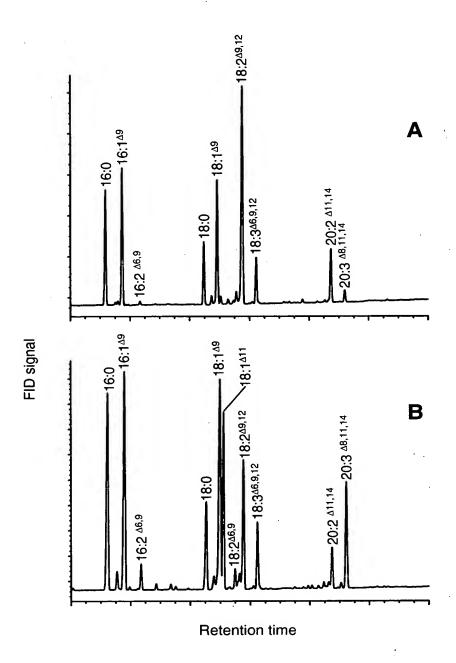


Figure 6: Fatty acid profiles of transgenic INVSc1 S. cerevisiae cells

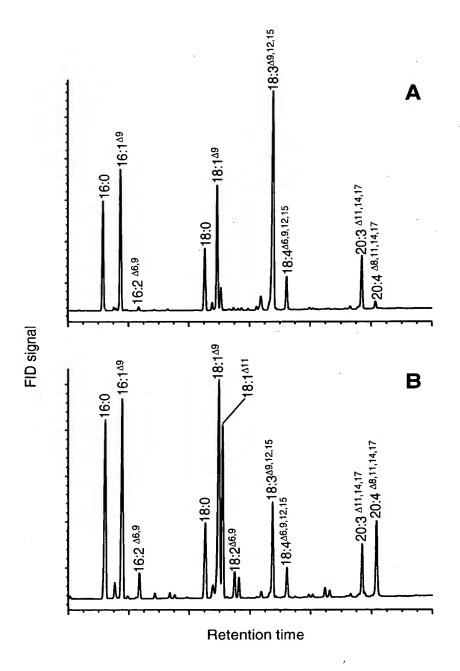
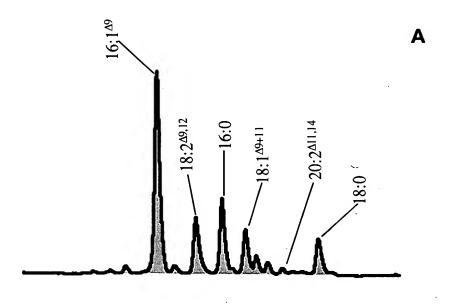


Figure 7: Acyl-CoA composition of transgenic INVSc1 yeasts transformed with the vectors pESCLeu PpD6Pse1/pYes2 (**A**) or pESCLeu-PpD6-Pse1/pYes2-T06E8.1 (**B**).



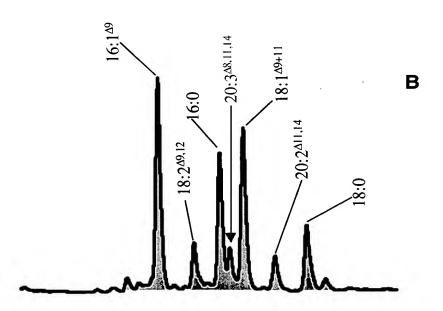


Figure 8: Vector map of pSUN3CeLPLAT

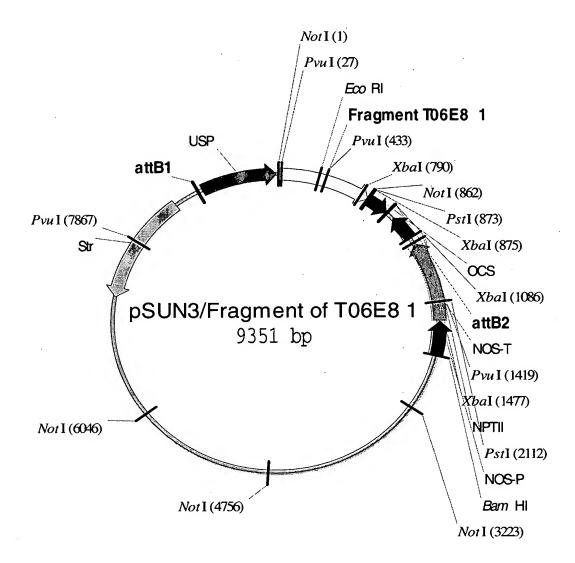


Figure 9A: Vector map of pGPTV LeB4-700 + T06E8.1

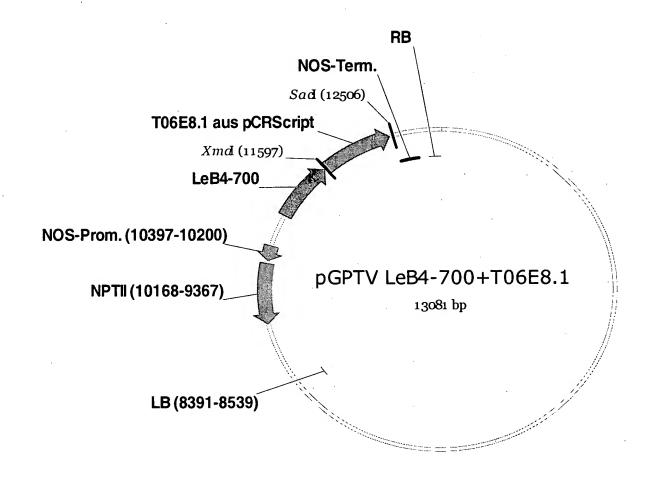


Figure 9B: Vector map of pGPTV USP/OCS-1,2,3 PSE1(Pp)+D6-Des(Pt)+2AT (T06E8-1)

pGPTV/USP/OCS-1,2,3 PSE1(Pp) D6-Des(Pt)-2 AT(T06E8-1)

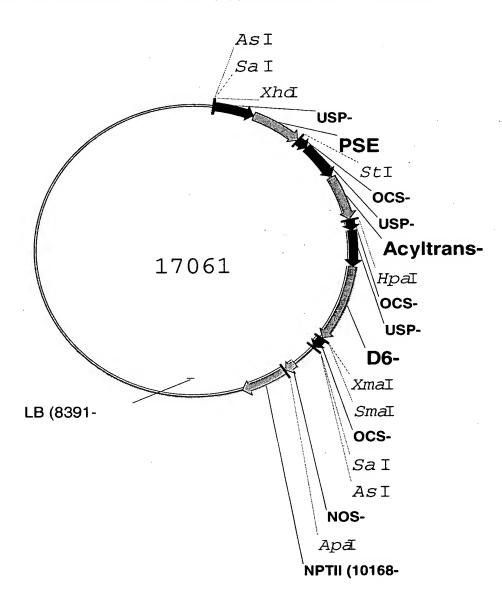


Figure 10A: Biosynthetic pathway of LCPUFAs

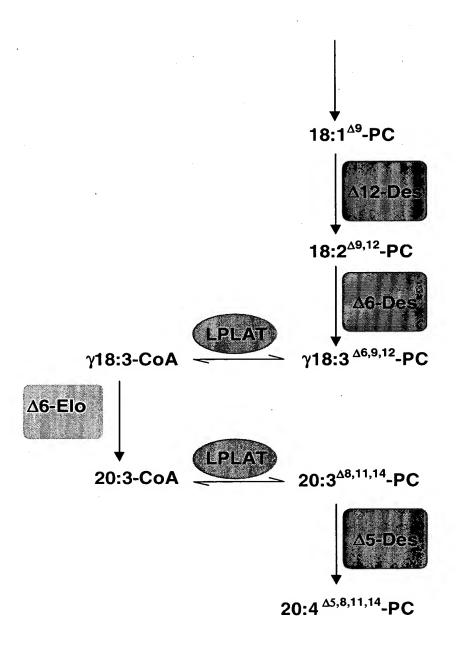


Figure 10B: Biosynthetic pathway of LCPUFAs

